

Herbs: a study in fact and folklore

At one time herbal products such as ginseng, herbal teas, ointments and herbal extracts were sold from the dark corners of health food stores. Today, however, it is not uncommon to see herbal products mass-marketed in major grocery food chains. Herbs are reported to be the fastest growing category of health foods sold in America and in 1979 it was reported that retail sales from herbs were estimated at almost 200 million dollars.

A major segment of the nation's herb manufacturing industry is located in Utah. The herb manufacturing firms receive raw herbs and formulate, encapsulate, label, bottle and package the finished herbal products which appear in health food, grocery and drug stores. The herb manufacturing companies of Utah include Amtec Industries of Spanish Fork, Nature's Way of Provo, Nature's Herbs of Orem and Solara of Ogden. Over 300 Utahns are employed in this industry which has estimated sales in excess of \$20 million annually on a wholesale

My view

■ *Mr. Poppin is a graduate student in botany at Brigham Young University and member of several scientific societies, in addition to working as quality control manager for Nature's Herbs, Inc. He wrote this article in response to an earlier Deseret News article on herbs.*

tests. Recently, the QC staff from a major herb manufacturing company presented a paper on herb identification techniques at the annual meetings of the Utah Academy of Sciences, Arts, and Letters.

Quality Control is a necessity due to government regulation, competition within the herb industry to produce quality products and to prevent toxic

Health Food Stores," stated that the entire Poke Plant (pokeweed, inkberry), and particularly the root, is toxic.

In fact the entire Poke plant (*Phytolacca americana*) is not toxic. Several companies commercially can and do distribute Poke Greens to supermarkets in the United States. It should be noted that Poke roots, berries and mature plants contain toxic principles including raphides and lectins. The Herb Trade Association has issued a policy statement which states that mature Poke Root is toxic and should not be sold as an herbal beverage or food.

Two cases of pennyroyal oil poisoning were reported in the Journal of the American Medical Association. It was stated that pennyroyal oil has been used in folk medicine as an abortifacient. One case of pennyroyal oil poisoning resulted in death.

In response, pennyroyal oil is toxic and has caused the death of one individual. The case reported in the JAMA indicated that the woman was not pregnant. It was stated that this woman was

depressed and may have been attempting suicide. Mark Blumenthal, past president of the Herb Trade Association, commented that the bottle which the woman drank from was clearly labeled for external use only. Also, it is estimated that 98 percent of the pennyroyal oil is sold as a flea repellant and contains warnings for appropriate use.

The other poisoning from pennyroyal oil involved a pregnant woman ingesting the oil, feeling dizzy and reporting to the hospital. The results of her physical, coagulation studies, liver function and renal function tests were all normal. She was discharged after two days.

An article entitled "Herbs and Vitamins — More is Not Better" appeared in the Deseret News. The article stated that "... the alkaloid in burdock is anticholinergic ..." This alkaloid was reported as causing toxic effects.

In fact, burdock (*Arctium lappa*) does not contain alkaloids. The Journal of the American Medical Association article which was used as a reference indicated that burdock root is used as a table vegetable in Japan and Europe. The toxic effects reported from burdock are not characteristic as ton-lot quantities of this herb are used annually with no reports of toxicity. The JAMA reported one case of "burdock root" poisoning but indicated these symptoms may have been due to a contaminant (not burdock).

production and office facilities. The production staff receives bulk herbs in whole, cut and powder form. Nearly 100 herbs, including ginseng, garlic, cayenne, comfrey, chamomile and goldenseal are used to produce bulk teas, spices, encapsulated single and combination herb products.

Production areas are maintained under environmental control to prevent insects, dust, temperature and humidity from degrading and contaminating products. Air doors are used at entry points to prevent insect entrance. Temperatures are regulated. Herbs are stored in accordance to FDA regulations and dust is controlled through special filtering systems. County health and FDA inspectors conduct several inspections per year to insure that there are no violation of health and safety ordinances.

Quality control is a priority for herb manufacturing companies. Quality Control (QC) departments monitor all phases of production. Raw materials, finished products and products in progress are sampled, laboratory analyzed and recorded in files. Products which do not meet specifications are returned to the source. The analysis of products includes microscopic, chemical and microbiological

mitted from the AMA press release. In Siegel's study the subjects used large concentrations (eighteen times the regular dosage) of ginseng. Ten percent of the subjects experienced Ginseng Abuse Syndrome symptoms of nervousness, hypertension, sleeplessness and skin eruptions. Siegel noted that all 10 percent who had experienced GAS symptoms also had been ingesting caffeinated beverages during the study. Caffeine has been implicated causing hypertension, sleeplessness and nervousness.

"Tannins in tea, including ordinary tea and peppermint tea, have been linked to high rates of cancer of the esophagus and stomach." This appears in Jane Brody's Nutrition Book. The Medical Letter is cited as a reference.

However in the Medical Letter article on herbal teas there is no mention of peppermint, tannins or ordinary tea linked to cancer. In fact tannins are nearly ubiquitous in plants and occur in the epidermal layer of most fruits. Tannin concentration in ordinary tea (*Thea sinensis*) is 13-15 percent. There is no mention of tannin concentration of peppermint in the literature of plant sources containing large concentrations of tannins.

In the April 6, 1979 Medical Letter an article entitled, "Toxic Reactions of Plant Products Sold in

from during pregnancy and lactation.

It is recommended that pregnant women take an iron supplement, 30 to 60 milligrams per day, and that this supplement be continued for 2 to 3 months after the birth of the baby.

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